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SOURCE Khirurgiya, No 2, 1946, pp 14-17.TISSUE THERAPY ACCORDING TO KRAUZE

D. P. Medvedyev

Using chemically treated tissue, fetal membrane in particular, on extensive and varied material (in diseases with manifest pain syndromes, scar formation, and inflammatory processes even of specific character), Krauze established that on local application the tissues which are applied exert a resorptive action on fibrous tissue in the process of its formation in the course of healing that is accompanied by granulation. He also found that they promote the resorption of scars and have a very definite analgesic effect.

In explaining subcutaneous implantation, Krauze started with the following assumptions. The resorption of scars and inflammatory infiltrates can take place only under participation of enzymatic proteolytic processes (cellular and tissue), whose combination can be conditionally referred to as proteolysis factors. The possibility of an influence of the implantations on the functional state of the nervous system cannot be denied; it may be an analgesic action, or an effect on the neurotrophic component of the pain process.

We used chemically treated tissue in 212 cases at a military evacuation hospital; of these, seven of the cases were causalgia as the result of fire-arm damage to the peripheral nerve shafts in the presence of mechanical irritation; five were cases of phantom pains after amputation of extremities; 53 were contractures of nonarthrogenous origin; 125 were cases of nonhealing wounds; and 22 were cases of stomach and duodenal ulcers.

In all of the above cases, subcutaneous implantations were performed. In addition, implantations were applied as fillings in 69 cases of osteomyelitis. Chemical treatment of the fetal membrane was carried out with a 2-percent solution of chloramine during 7 days. The solution was changed twice every 12 hours during the first day, and only once during the remaining 6 days. The tissue was preserved in the solution until it was used. Before use, the fetus membrane is dropped into physiological solution for 5-7 min and the liquid squeezed out between gauze strips. We believe that this kind of treatment assures absolute sterility of the tissue. For each implantation, 4-5 grams of fetus membrane are used.

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root. The patient was given a month's furlough. After the furlough, he was admitted to our hospital with a nonhealing wound in the region of the pit below the knee, located in the center of a wide callous scar. There was restricted flexibility of the knee joint. After two grafts, the wound healed, the function of the joint was restored, and after 1½ months the patient was returned to active duty.

Simultaneously with implantations, fetus membrane was also applied in the form of bandages (pieces of flattened tissue placed on the skin). The surface of the fetus membrane is a dry aseptic bandage. If it did not become soaked with pus, it was left in place for 12-15 days. The fetus membrane resembled parchment paper applied to the wound; healing apparently proceeded underneath it.

At the point of the implantation, there appears a local reaction inflammation with slight exudation of tissue fluid, with appreciable disturbance of the general condition. The infiltrate disappears within 2-3 days. After the implantations performed by us there were cases of suppuration, which were attributed to technical defects and not to sterility of the tissue.

In addition to implantation and the surface application of chemically treated tissue, we used it as filling in 69 cases of osteomyelitis which developed after bone injuries due to firearm wounds and mainly in nonsequestral and sclerotic forms. The location of the infection and the results of the treatment are given in Table 2.

Table 2

<u>Injury</u>	<u>No of Patients</u>	<u>Recovered</u>	<u>Improved</u>	<u>No Improvement</u>
Osteomyelites				
Humerus	2	2	--	--
Forearm	7	4	--	3
Wrist	1	1	--	--
Pelvic bones	13	9	--	4
Femur	17	11	--	6
Shin	21	16	--	5
Foot	<u>8</u>	<u>5</u>	<u>--</u>	<u>3</u>
Total	69	48	--	21

We used the fillings mostly in cases where several surgical interventions had not resulted in healing. After sufficient uncovering of the osteomyelitic cavity, removal of the granulation and brushing of iodine into the cavity, the fetus membrane in the shape of a filling was inserted and the wound completely sutured. We consider it essential to stress the fact that with poor hemostasis, poorer results were obtained, since the fetus membrane usually was expelled by the blood. We obtained better results in metaepiphysic osteomyelites.

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3. Lt P. -- Fragmentation wound with imbedded fragments; injury to external left femoral condyle. The foreign matter was removed in one of the local hospitals and the patient was operated on three times for osteomyelitis. He was transferred to our hospital for a resection of the knee joint. In the region of the injured femoral condyle, there was a fistula with a slight suppurative discharge. On the X-ray photograph, the cavity in the metaepiphysic portion of the femur was without appreciable sequester. An operation for inserting a filling was performed, and the patient was discharged as recovered after 2 months.

Tissue therapy was carried out against the background of customary complex therapy (physiotherapy, massage, exercises, etc.).

SUMMARY

1. Tissue therapy, like other biological methods of treatment (Bogomolets' serum, shock therapy with blood, etc.), is a little-known method, but in view of the effect obtained, it should be recommended for wide use.

2. Local application of the chemically treated tissue according to Krauze has a pronounced analgesic action in causalgia, phantom pains, and other pain syndromes and stimulates the regeneration process in the healing of wounds.

3. Tissue therapy, contributing to the resorption of scars, expedites the restitution of the junction of joints in cases of nonarthrogenous contractures.

4. The filling of bone cavities in osteomyelitis with chemically treated tissue aids the regeneration process of the bone tissue.

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